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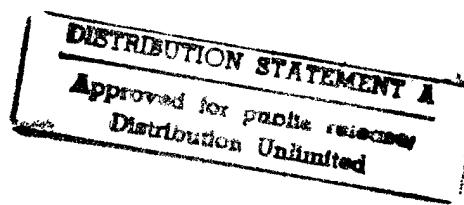
26 May 1982

Worldwide Report

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 219

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FOREIGN BROADCAST INFORMATION SERVICE

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26 May 1982

WORLDWIDE REPORT
TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 219

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SATHE ADDRESSES COMMUNICATION CONFERENCE

New Delhi PATRIOT in English 23 Apr 82 p 10

[Text]

UNION Information Minister Vasant Sathe on Thursday called upon the Third World countries to develop their own media network compatible to their needs, and not depend on western news organisations.

For this, Mr Sathe stressed the need for sharing of resources among the developing countries in order to achieve collective self-reliance in the field of communications.

Speaking at the annual convocation of the Indian Institute of Mass Communication, Mr Sathe said that since resources among the developing countries were scanty, it was imperative to them to share mutually whatever resources were available to build an independent communication system.

The information needs of developing countries, Mr Sathe observed, were different from those of the highly developed nations. The media network of industrialised nations, has normally tried to impose an alien culture which was detrimental to the growth of the Third World countries, he added. Mr Sathe pointed out that the communication strategy should be geared to create an awareness among the people of the existing social problem. The non-Aligned News Agencies pool which had made a beginning was the symbol of the aspirations of the Third World countries for achieving self-reliance in news and information dissemination.

Laying emphasis on the development of communication infrastructure, the Minister said that it should have a multi-pronged approach so that people were kept in touch with the national poli-

cies and programmes besides motivating them to take part in developmental activities.

Mr Sathe suggested that the institute should fashion itself into a centre for study of communication research and related problems. The activities of such a centre could encompass the Asian Pacific region or even the whole world.

Nineteen scholars of the Advertising and Public Relation Course were awarded diplomas along with 56 scholars of the post-graduate diploma course in journalism for non-aligned countries. Of them, 36 students were from abroad.

In addition, 15 salvers and medals were given to students for their meritorious performance in three courses conducted by the IIMC. Mr N Jayaraman of India bagged the Press Trust of India salver for the highest aggregate.

marks and Mr Farid Hossain of Bangladesh clinched the P V Vishwanath Memorial salver presented by Dr A V Baliga Foundation.

Miss Ranjana Jasbir Singh received the Public Relations Society of India award and Miss Geeta Sakharam bagged the India Tourism Development Corporation Award.

In the post-graduate course, the Matrubhumi salver went to Miss Sumita Mukherjee the Tribune salver to Mr Hare Prasana Das.

However, some scholars of the post-graduate course refused to accept their diplomas and awards in protest against what they termed as 'mismanagement' in the IIMC. Wearing Gandhi caps with 'Stop press' written across the protesting students distributed leaflets condemning the 'inefficient functioning' of the institute.

CSO: 5500/7127

INFORMATION MINISTRY REPORT FOR 1981-82 RELEASED

Bombay THE TIMES OF INDIA in English 21 Apr 82 p 4

[Text]

NEW DELHI, April 20 (UNI).

ALL India Radio plans to introduce a three-tier broadcasting system comprising a national channel, regional stations and local stations.

A beginning was made during 1981-82 with the acquisition of land for installation of a 1,000 Kw. medium wave transmitter at Nagpur for the national channel.

After this channel is commissioned, the existing regional transmitters would form the middle tier. Six local radio stations proposed to be set up during the sixth plan would provide community service for specific areas and form the third-tier, says the annual report of the ministry of information and broadcasting for 1981-82.

Another major step taken was the sanctioning of installation of two 500 Kw shortwave transmitters at Bangalore and two 250-Kw shortwave transmitters at Aligarh to consolidate and strengthen the external service broadcasts.

Steps were also taken for setting up a 50 Kw shortwave transmitter at Shillong to meet the urgent need for providing an integrated service in the north eastern region. In addition, a special plan was prepared for expansion of air services in the north eastern region.

SINDHI SERVICE.

On the software plane, a Sindhi service on the megawatt transmitter at Rajkot was introduced during the year to fulfil a long-standing demand of Sindhi listeners spread over the western part of the country.

The fees payable to artists participating in various programmes of All India Radio were increased by 50 per cent to 75 per cent from July 1, 1981.

An important decision taken during the year was to utilise the full power and reach of AIR transmitters on the primary channels for carrying sales message to the consumers in the interior with effect from April 1, 1982.

Doordarshan started networking of Madras-Bangalore, Bombay-Pune, Delhi-Mussoorie, Jullundur-Amritsar, Calcutta and Ahmedabad stations through microwave circuits and Apple satellite for simultaneous telecast of programmes of national importance. These included Independence Day, Republic Day, Beating Retreat ceremony and the fire-power demonstration by IAF at Tilpat.

At Jullundur a ten-Kw transmitter and a second studio were commissioned. A relay centre at Bangalore was inaugurated.

Government approved the use of INSAT-I for extending the information-cum-education telecasts in 18 districts in six states and also for networking.

Steps were taken to start this service via satellite from August 15, 1982 from Hyderabad, Cuttack and Nagpur. The master plan for providing TV coverage to the entire north eastern region by making full use of the proposed facilities at Gauhati was drawn up. The plan was approved by the north eastern zonal council in February, 1982. Its financial and phasing aspects were being examined.

Action was initiated to procure four colour outside broadcast (OB) vans and other necessary equipment to provide TV coverage in colour for the Asian games. An experimental colour transmission was put out from the international trade fair held in New Delhi for a fortnight. Later, a trial colour transmission comprising a 40-minute highlight of Festival of India in London was successfully telecast from Delhi Doordarshan kendra.

PROBLEMS OF SATELLITE INSAT ANALYZED

New Delhi INDIA TODAY in English 15 May 82 pp 136-7

[Article by T.N. Ninan and Rohini Nilekani]

[Text]

FOR ALL its pioneering role, INSAT-1A is a satellite that the Space Department may want to quickly forget. Almost the only thing that can be claimed on its behalf is that it is operational: certainly a triumph in itself, but one robbed of much of its real value.

The launch was late by 22 months. Despite that leeway, most of the related ground facilities to make use of the satellite are not in position. By the time they are, the satellite will probably have lived out its life, reduced from the planned seven years to perhaps just three because of the unanticipated burning up of vital hydrazine fuel.

Even before the launch from Cape Canaveral, Florida on April 10, some fuel had to be off-loaded from the satellite since its weight exceeded the stipulated 1,150 kg. The US National Agency for Space Administration (NASA), contracted to do the launching, had insisted that its Delta rocket would not otherwise be able to put the satellite into the required orbit.

Hitches: Later, up in space, the dish-shaped C band antenna, the single most crucial part of the satellite, refused to open, blanking out the only means of communication with INSAT-1A. When all other manoeuvres failed, the scientists at ground control in Hassan, Karnataka, played their last card: firing the thrusters under the closed antenna in an effort to literally thrust the antenna open. Tests at the Palo Alto headquarters of Ford Aerospace and Communication Corporation, which built the satellite, had shown that firing the thrusters would not damage the carbon-fibre antenna.

The first firing failed, and it took a second burst, using up further precious fuel, to eventually work the trick. Meanwhile, the satellite had drifted eastward and been nudged gently back to its space home 36,000 km over the equator, at 74 degrees East. Each of these manoeuvres saw the fuel reserves drop further, and more than a fortnight after launch, problems still plagued the satellite.

The solar sail, designed to counterbalance the array of solar panels on the opposite side of the satellite and give it stability, refused to open. Until it does, the thrusters will have to be fired periodically to keep the satellite in position. Space Department scientists refused to speculate on the full impact which the loss of fuel would have on the satellite's life. But a Central minister responsible for the satellite confided that its life might not be more than three years instead of the planned seven.

Even as the scientists at Hassan were struggling with the wayward satellite, moves were initiated in Delhi to inquire into the series of technical problems and the possibility of costly human error. But all this was well in the future on launch date. The blast-off had already been pushed back twice because of mechanical failures; and on April 10, there remained just two days before the booking of the space parking lot would expire. Storm clouds milled over the horizon.

Uncertainties: Project Director Pramod Kale mulled over an astrologer's prediction that the original schedule was not an auspicious 'muhurat' for the launch. Satish Dhawan, chairman of the INSAT coordination committee, sat quietly in front of

flickering video screens monitoring activity on the launch pad. The delays and uncertainties had taken their toll, and the initial excitement had dissipated into nervous fatigue and latent tension.

Back home in Delhi, officials of the ministries that would make use of the satellite fumed in frustration: none of them had been invited to witness the launching in Florida. And, days later, when the satellite began to look like a problem child, some of them would ask mockingly about the "deaf and dumb" satellite and call for accountability.

"T minus 20 and counting," intoned the commentator at the mission director's centre (MDC) as scientists and technicians, both Indian and American, busied themselves with last minute duties. The heavens spent themselves in the nick of time, some rain clouds still skirting a near full moon in the newly washed sky. Criss-crossing searchlight beams bathed the 116-foot Delta rocket before an incredibly picturesque blast-off. A thanksgiving coconut, brought by one of the Indian scientists, was offered to the gods and, in a release of tension, the rain came down again.

Disastrous Planning: In Nagpur, on the day of the launching, Mrs Gandhi was laying the foundation stone for a satellite-linked TV-radio complex that should have been ready before the launching of INSAT-1A. Nothing drove home the disastrous planning of ground facilities as the bizarre timing of this ceremony. The final clearance for the INSAT project had been given in 1977, but the related clearances for the ground facilities came a full two years later. Charan Singh, finance minister in the Janata government, had steadfastly stonewalled the whole proposal as a waste of money. The delay he caused has virtually made it so.

Some of the clearances came only in 1981. Going by the present schedule, some of the 15,000 villages in six states that are to get educational TV programmes via the satellite will be linked to the system only in 1987. INSAT-1A may not be around by then, though the twin INSAT-1B will have been pressed into service. This second satellite was initially designed as a space stand-by, and scheduled to take over from INSAT-1A at the end of the latter's seven-year life span. Now it seems that 1B will quickly become the primary satellite.

AMONG all the ground facilities, only the telecommunications segment will be reasonably ready by the time the satellite is made available for operational use. But even here, only 1,400 of the

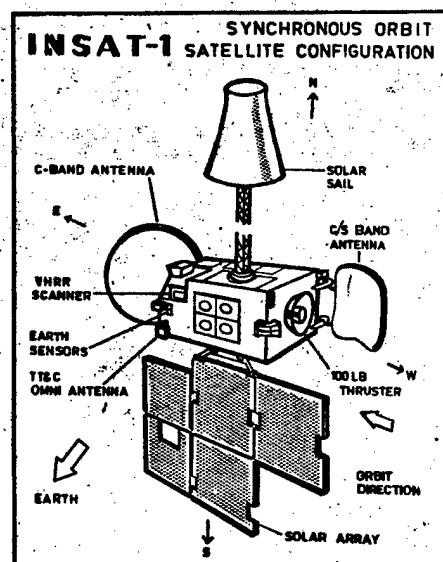
4,000 two-way telephone channels will be made use of initially. Full utilisation may have to wait till mid-1983.

At the Meteorological Department headquarters in New Delhi, a week after the launch, floors were still being polished in the main satellite data utilisation centre. Computers were being tested and related equipment still being put into position.

Officials in the department considered this state of readiness a minor miracle, given the inhuman schedule to which they had had to work. Construction of a six-storeyed building started only in 1979, with barely a year left for the initial launching date. For some of the equipment, indents were placed with the Directorate-General of Supplies and Disposals only in February 1981, and orders placed with suppliers in November with delivery dates six to eight months ahead.

Of the 100 unmanned meteorological data collection platforms that are to transmit weather-related data to Delhi via the satellite, only eight will be in place by the end of 1982. The others will follow in batches of 24 at six-monthly intervals. Officials insist this is according to the schedule, and deny that there have been any delays. But the special receiver sets that are to be used by district officials for getting the department's disaster warnings based on satellite data are still being developed. Fabrication of the sets will start next year. The disaster warning system may not be fully operational till 1984.

Big Delay: The ministry that needed a disaster warning at least a couple of years



ago was Information and Broadcasting. INSAT-1A can provide a nation-wide TV

hook-up, but there is money now for only 340 special direct reception sets that will be deployed in the villages. Even these will start getting delivered only from December. In contrast, seven years ago, the Government had been able to provide 2,400 direct reception sets for the satellite instructional television experiment (SITE) programme. Manufacturers are only now being approached to produce more sets quickly.

Even as the satellite hovered overhead, the ministry was looking into the feasibility of a more cost-effective way of sending TV programmes to the villages. Information and Broadcasting Minister Vasant Sathe was trying to push through a proposal to fit on to microwave towers with special antennae that would be able to receive and transmit TV signals which in turn could be picked up by ordinary TV sets in a five-kilometre radius. This would obviate the need for the costly direct reception sets and make things move a little faster. But engineers were objecting that the microwave towers were not built to take the extra load of the special antennae. If their objections stand, the only way out will be to construct at least future towers with the strength to take the extra load.

TV programme readiness is no better. The National Council for Educational Research and Training (NCERT) has been commissioned to do no more than 50 special school programmes of 20 minutes each: a stock of programmes that will last just 25 days at the planned rate of two programmes per day. For the rest, the ministry is falling back on existing Doordarshan programmes and dusting off cans containing old SITE programmes.

Little Action: The poor programme readiness roused lively fears among scientists concerned about the uses to which INSAT would be put. Some at the Ahmedabad Space Applications Centre warned that since there was little action in hand to set up field programming centres, select the target villages, or train personnel for maintaining the community TV sets, the satellite would eventually be used for beaming feature films, a mish-mash of other entertainment programmes and sports events.

The criticism implicit in that warning was lost in Delhi, where Rajiv Gandhi was said to be furious over the initial satellite failure because he would not be able to ensure nation-wide colour telecasting of the Asian Games. Space Department officials confessed that there had been pressure even earlier to allow the use of the existing experimental satellites for beaming Test cricket telecasts. They had refused on the ground that this was not the purpose of an experimental satellite; that argument will not be available in the case of INSAT.

Serious use of INSAT's television transponders would have meant beaming separate programmes for children, farmers and housewives for at least four hours a day, or about 1,500 hours a year. The programming capacity for this amount of work simply does not exist, calling as it does for probably a 50 per cent increase in total studio capacity. But, as a Doordarshan producer said, "Vasant Sathe is more concerned about making colour TV a national policy."

CSO: 5500/5786

INDONESIA

BRIEFS

TELEVISION RELAY STATIONS--The head of the Information Department Research and Promotion Division, Syamsu Sugito, on 2 May inaugurated a TVRI television relay station in Curup, Rejanglebong, Benkulu Province. The relay station is the 147th station inaugurated so far in Indonesia. The 148th station was also inaugurated on the same day in Sipirok, West Sumatra, by the junior minister for people's housing, Cosmas Batubara. The Curup station, which has a capacity of 100 kilowatt operating through channel 4 with a transmission radius of 40 km, costs 289 million rupiah. [Jakarta Domestic Service in Indonesian 0700 GMT 3 May 82]

CSO: 5500/5789

BUDGET CUTS IMPERIL SHORTWAVE BROADCASTING SERVICE

Timing Seen Inopportune

Wellington THE EVENING POST in English 11 Mar 82 p 4

[Text]

New Zealand's small shortwave broadcasting service is under the threat of the cost-cutting axe, just as an unprecedented boom in shortwave broadcasting in the Pacific has taken off.

The Minister of Foreign Affairs, Mr Cooper, yesterday suggested cutting the service (report on page 9).

This is the second time the service has faced such a threat; in 1976 it was actually put off the air for three weeks before public protest led to its reinstatement.

The head of external services for broadcasting, Mr Fred Barnes, said today the shortwave boom was "quite frightening."

New Zealand transmitted on two seven and a half kilowatt American World War Two transmitters to its target area of Polynesia, Melanesia, and Australia. By contrast, the Soviet Union used 45 500 kilowatt transmitters to reach Asia and the Pacific. Each day 440 shortwave channels were broadcast into the Pacific.

"There are so many nations broadcasting shortwave," Mr Barnes said. "People have recognised that the Pacific Basin will be the major sphere of interest in the future."

Diplomatically, New Zealand may decide to opt out of shortwave at the wrong moment. Next year a con-

ference organised by the International Telecommunications Union will allow shortwave channels in the Pacific for the rest of the century. If New Zealand is not broadcasting it will lose any claims to channels and will not be able to get back into shortwave broadcasting until the turn of the century.

New Zealand's shortwave station is currently attracting large number of listeners in Japan, where a "Radio New Zealand Listeners Club" has been formed. Regular Japanese language broadcasts from Wellington have promoted New Zealand tourist destinations — including Mr Cooper's home town of Queenstown — and New Zealand customs.

In addition to shortwave programmes, external services produces 5000 hours a year of cassette programmes for medium wave-Pacific radio stations.

This includes music, sports, New Zealand news, news about Pacific Islands and programmes in Niuean, Samoan, Tongan and Cook Islands Maori.

"For some of the small stations in the Pacific this represents a substantial input into their programming, as much as a day every week," Mr Barnes said.

"We don't broadcast the silly sort of things that Mr Cooper is talking about, it's all done by responsible journalists."

Foreign Minister's Criticism

Wellington THE EVENING POST in English 11 Mar 82 p 9

[Text]

RADIO NEW ZEALAND's news services were criticised yesterday by the Minister of Foreign Affairs, Mr Cooper, after he said he favoured ending Broadcasting Corporation shortwave radio broadcasts to the Pacific.

Mr Cooper said the Government was considering stopping the service as part of the 3 percent cost-cutting exercise.

He said the Foreign Affairs vote paid nearly \$200,000 annually to the corporation to keep the service going, and that "a couple of archaic transmitters" may have to be replaced at a cost of \$6 million.

Australian-sourced programmes to the Pacific "are giving Australia a good high-profile with the right type of news," Mr Cooper said, so the area would not go without a service.

"We haven't had that many reports coming back saying that the radio programmes going up (from New Zealand) are putting New Zealand as a nation in the best light possible."

Pessimistic

Asked if he was criticising Radio New Zealand's news services, Mr Cooper, a former Minister of Broadcasting, said:

"It's a logical response to some of the programmes coming out which are pretty pessimistic and don't show New Zealand in the best light possible."

Labour's shadow minister of broadcasting, Jonathan Hunt, said the decision would be disastrous for New Zealand's foreign relations with the area of greatest concern, the Pacific.

"This service is a vital link between New Zealand and the Pacific peoples.

"When Prime Minister Peter Fraser started the shortwave radio service in September 1948 he said it would serve to give an accurate picture of New Zealand life overseas.

"That point is still valid today.

"Auckland is the largest polynesian city in the world.

"People in the Pacific and as far away as Japan and the United States pick up present transmissions.

"The service is a necessary cultural and information medium," Mr Hunt said.

He said radio was regarded as one of the most influential media in the Pacific.

There had been a near doubling of countries directing transmission to the Pacific in the past decade.

"This includes powerful transmissions from Radio Moscow, Radio Deutsche Welle (West Germany) and the Australians.

"If the Pacific is New Zealand's main area of concern, we have a duty to

maintain our message to this area.

"We must not hand over that responsibility to the Australians or the Russians," Mr Hunt said.

Cooks

The cloud over the shortwave service came as a surprise to the Cook Islands Minister of Economic Development, Mr Vince Ingram, who was visiting Mr Cooper yesterday.

Mr Ingram told journalists the service was "very good," and that he listened to it and was happy with it.

He had no comment on the desirability of continuing it, saying that it was important in the Pacific.

But, the Cooks minister asked, "Is it more important than, say, food or aid? That's what has to be weighed up."

Mr Ingram talked to Mr Cooper about the year's bilateral aid programme.

The Cooks is well aware of the Government's cost-cutting programme and is engaged in one of its own, he said.

Mr Ingram's government has aimed to knock 3 percent off the inflation-adjusted aid budget it wants from New Zealand this year.

"We've attempted to work within that," he said of the aid request being filed with New Zealand.

CSO: 5500/9028

UK COMPUTER FIRM ICL EMPHASIZING NEW ZEALAND MARKET

Christchurch THE PRESS in English 9 Mar 82 p 23

[Text]

Great emphasis is being placed on the New Zealand market by the British computer firm, I.C.L., through its New Zealand subsidiary, International Computers (New Zealand), Ltd.

This was made very clear by the chairman of the parent company (Mr C. C. F. Laidlaw) on his recent visit to New Zealand.

Mr Laidlaw said that the group attached a lot of importance to New Zealand and had recently added New Zealand to its "major country" list, the others being France, Germany, South Africa, Australia, Canada, and the United States.

In addition, I.C.L. had introduced its own version of closer economic relations with Australia with cross-board representation between the boards of the Australian and New Zealand subsidiaries.

The CASPER installation for the New Zealand Customs Department, which Mr Laidlaw visited, would in itself be a world reference point for selling the system, Mr Laidlaw said.

CASPER, for Customs and Statistics Processing of Entries and Retrieval, is based on an I.C.L. 2980 computer at Trentham, supporting a network of regional ME29 computers (also by I.C.L.), which themselves support a large number of terminals throughout customs locations in major centres.

Mr Laidlaw said that CASPER was recognised world wide as an application of the most advanced networking techniques.

"It is a compliment to the expertise of the State Services Commission in developing such an impressive and sophisticated system, which is notable as an international leader in the use of hierarchical networks," he said.

"I.C.L.'s networked product line clearly satisfies the requirements of the sophisticated CASPER system," he said.

Nevertheless, all was not rosy on the New Zealand front, with the 40 per cent sales tax on computers being a major thorn, Mr Laidlaw said.

"It's too high, the highest in the world, but we are very glad to see this shifting towards more flexibility," he said.

Mr Laidlaw described the 10 months since he was appointed chairman of an ailing I.C.L. as a "very exciting time." With the aid of a £200 million guarantee from the British Government, an entirely new board, and some heavy staff pruning — by 30 per cent or 10,000 jobs world wide — I.C.L. was well on the road to financial recovery, he said.

In the middle of last September, the company's paid-up capital was only £33.4 million. Since then a special short-life preference stock and a one-for-one rights issue has brought the parent company's capital up to £115 million.

Government guarantees for the company will now continue until 1986, reducing at the rate of £50 million a year. Losses have been reduced sharply, from £133

million in the company's last financial year to only £16 million in the first six months of this year.

"The motto has been profit before growth," Mr Laidlaw said.

As a means of pursuing this policy, the company has forged collaborative links with firms such as Fujitsu, of Japan, Three Rivers, in the United States, and Mitel — links which, Mr Laidlaw emphasises, are collaborations and not partnerships.

"The independence of I.C.L. must continue and is seen as vital to the computer industry at large," he said.

The ties with Fujitsu will give I.C.L. access to chip technology which Mr Laidlaw regards as "the best in the world bar none." A spin-off from this, with main-frame technology research being done by Fujitsu, has been that I.C.L. can divert more of its £75 million research and development effort into developing smaller systems. About a third of the research and development spending this year will go on smaller systems.

This collaboration was not "a Japanese Trojan horse," Mr Laidlaw said, because, although there would be increasing Japanese involvement in main-frame technology, I.C.L. technology would still be essential around it.

Through this system, I.C.L. was planning the 1984 machine with a cube of seven printed circuit boards surrounded with their own technology and manufactured in the United Kingdom. Mr Laidlaw was confident

that the company's DM 1, due for release in 1984, would provide either the same power as the company's main competitors' computers at less price, or more power at the same price.

The collaboration with Mitel had given I.C.L. access to new technology for networks — similar to the CASPER concept — and that with Three Rivers access to technology for Perq systems of personal computers and work stations.

Since the Perq technology became available from Three Rivers last September, and United Kingdom manufacture began last month, it had become a standard personal computer for the British Scientific and Engineering Research Council. (Perq system should become available in Australasia either late this month or early in April.)

Together with these developments was a new approach to software, to reduce the number of packages available, but to provide in them a higher quality and greater bulk, thus reducing their specialist aspects and making them of greater universal application.

Mr Laidlaw said that the collaborations were not all one way. I.C.L.'s marketing expertise and the linking of systems improved the sales of all concerned.

All of the designs emerging in I.C.L. systems through the use of Fujitsu chips were exclusive to I.C.L. and it was not surprising that Fujitsu itself wanted to obtain some of those designs, he said.

CSO: 5500/9028

SATELLITE USERS' BODY FORMED

Karachi BUSINESS RECORDER in English 4 May 82 p 3

[Text]

A "national communications satellite user's committee" has been constituted by the government to specify what tasks should be allotted to the Pakistan telecommunications satellite, which is scheduled to be placed into orbit around the earth in 1986.

According to a SUPARCO spokesman the formation of the committee which came into being last week—represents a significant step forward in the careful planning needed to make the "national communications satellite system" fully operational.

The Pakistan Space and Upper Atmosphere Research Commission (SUPARCO) will act as the coordinating body for the "user's committee", which will include representatives from such other concerned agencies as the Ministry of Education, Telephone and Telegraph Department, Pakistan Television and Radio Pakistan.

Each of these agencies will come forward with their requirements, i.e. the number of satellite channels and circuits which they would want to use after it is placed in a "geo-stationary" orbit around the earth's equator.

SUPARCO will then sit down with a team of international consultants to translate the requirements of the above user agencies into actual technical specifications according to which the telecommunications satellite will be fabricated.

SUPARCO is already in touch with a number of international consultants firms which specialise in aero-space telecommunications systems, and will select one of them to act as an advisory agency on the entire "national communications satellite system".

The first meeting of the newly-formed "national communications satellite user's committee" will take place here soon.

SUPARCO hopes to finalise a list of the requirements of all satellite user agencies within a period of three months.

In the light of these requirements, the detailed specifications for the telecommunications satellite will be drawn up, and this process will take about nine months to one year, since the work involved is highly technical and there is no margin for error because once it is placed into orbit, the satellite cannot be recalled to earth for any "alterations" or "corrections".¹

After the specifications for the satellite have been framed, SUPARCO will ask aero-space manufacturing firms to submit bids for its fabrication.

There are only a handful of firms in the world capable of fabricating a complete telecommunications satellite.

While this process is underway, SUPARCO intends to conduct talks with both the European Space Agency (ESA) and the American National Aeronautics and Space Agency (NASA) regarding the launching of a Pakistan satellite in 1986.

Prior reservation of a "launching date (or slot)" has to be made well in advance of the target year and so a firm contract has to be entered into by end-1983 about the eventual 1986 launch with either of the above two agencies.

With the launch of a telecommunications satellite, Pakistan will enter the space age in the real sense of the word. Besides making possible the beaming of radio

and television programmes into the remotest parts of the country, the telecommunications satellite will also provide thousands of long-distance telephone circuits as well as having educational uses.—APP.

CSO: 5500/5791

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

HUNAN POST, TELECOMMUNICATIONS CONFERENCE--The Hunan provincial conference on posts and telecommunications work which concluded on 24 April, stressed that the pressing matter of the moment in posts and telecommunications work is to improve the seriously backward situation of posts and telecommunications. The conference pointed out that at present, posts and telecommunications in the province are still very backward, telephone sets in urban areas are in short supply and long-distance telephone apparatus is also in short supply. Rural telephone equipment is obsolete, lines are poor in quality and there are insufficient factories for the production of postal equipment. The conference demanded that this situation be improved as quickly as possible. This year, the province must provide 50 more long-distance telephone lines, 7,000 more telephone sets in urban areas and 30,000 square meters of factories for the production of postal equipment. It is necessary to lay stress on the solution of problems in Changsha, Zhuzhou and Xiangtan municipalities and Jishou township. [Changsha Hunan Provincial Service in Mandarin 2310 GMT 28 Apr 82]

CSO: 5500/4014

SERVICE TO MARINE TRAFFIC ON VERGE OF BREAKDOWN

Colombo THE ISLAND in English 26 Apr 82 p 1

[Article by Norman Palihawadana]

[Text]

Colombo Radio the island's only communication centre for marine traffic is on the verge of a complete breakdown.

Of the three transmitters, one of them - 8 MW transmitter has completely broken down.

The 500KW transmitter is on the verge of a breakdown and technicians describe its functioning as 'low'.

The third transmitter of the 12 MW capacity is functioning but that too is constantly breaking down, sources say.

Meanwhile, the ship to shore radio telephone communication service packed up months ago but no action has been taken to put it back into order. This has also resulted in the government losing foreign exchange obtained from receiving and transmitting messages.

The GMT time recording too is subject to frequent breakdowns. This machine is expected to transmit the time to ships twice a day.

According to Colombo Radio sources although these defects have been brought to the notice of the authorities no action has resulted.

Most of the equipment are outdated - some are over 50 years, our sources say. They do not come within the specifications of the International Telecommunication Union.

Sources point out that the concern of the authorities for this institution can be seen from its Operations Centre at Narahenpita which is very poorly maintained.

CUBA

BRIEFS

COMMUNICATIONS IMPROVEMENTS PLANNED--Pedro Guelmes, member of the party Central Committee and minister of communications, announced here that during the current 5-year period more than 300 million pesos will be spent to improve communications in Cuba. He made this statement while summarizing the results of an inspection and assistance visit to this province where he said good work is being done. He added that of this total, about 75 million will be used for new technology and that 100,000 new telephone lines will be installed, 14,000 of them central lines, primarily in the interior of the country. Guelmes pointed out that 95 percent of the equipment will be supplied by socialist countries. He said that in this program Agramonte Province has good prospects for the immediate and long-term future but that some regions of the country require a more extensive plan. He said that the 30 days of inspection and assistance, in which almost the entire directorate of the Ministry of Communications participated, had been most productive and that a number of central offices in the entire area had been visited, which made possible an accurate evaluation of every phase of the work. The main aspect to be improved, he added, is efficiency in transportation and he requested that the resources of other agencies be used to guarantee the rapid delivery of correspondence as well as of newspapers. He praised the survey system being used in the postal and telegraph networks since it contributes to work of a higher quality. He also pointed out the need to solve the problems which still exist in the delivery of telegrams which on a national basis is not efficient. He said that the importance of training of personnel in the efficient use of new techniques must be a permanent concern. [Text] [Havana GRANMA in Spanish 16 Apr 82 p 3] 9204

CSO: 5500/2209

INTERNATIONAL AFFAIRS

BRIEFS

ISRAEL-EGYPT TELEPHONE LINE--Elat, 29 Apr--A direct telephone line was dedicated today between the control towers of the Elat and Ra's An-Naqb (formerly 'Ezyon) airfields. The director of the Elat airport, Ya'aqov (Foms), told the ITIM correspondent that the telephone line operates outside the postal services and allows for coordination and transfer of information between the two airports swiftly and easily. The operation of the direct Elat-Ra's An-Naqb line was done as part of the tourism agreements signed between Israel and Egypt. [Text] [TA291441 Tel Aviv ITIM in Hebrew 1415 GMT 29 Apr 82]

CSO: 5500/4719

AFGHANISTAN

MINISTRY NEGOTIATES MANY NEW TELECOMMUNICATIONS PROJECTS

Kabul KABUL NEW TIMES in English 19 Apr 82 p 3

[Text]

The Ministry of Communications will launch 21 new developmental projects during the current Afghan year as is envisaged in the five-year plan.

A source of the Ministry talking to the reporter of the Kabul New Times further elaborating on the works so far carried out in some projects and the future tasks ahead said:

Taking note of the Kabul Master Plan, socio-technical developments and to meet the requirements of the people, the construction of the central office is included in the five-year plan. Under a contract concluded earlier the construction of new office building and technical sections is being carried out by the Afghan Construction Unit in cost plus fee basis. So far some fifty per cent of construction work is progressed.

With the completion of the new complex, modern postal as well as tele-communications services will be offered. The new building will be equipped with facilities such as microwave, and switchboards for trunk internal and

international telephone calls, stations for use of satellites and long distance communications.

The Kabul-Mazare Sharif microwave is another significant project. This project with the capacity of 720 channels, both for telephone and telegram, and one channel for television will provide tremendous facilities in establishing multi-communications links.

Construction of feeder roads, a building to house the power station and installation of equipment are also part of this project. The foreign exchange to procure the equipment and other technical goods is being financed from the Soviet credit. The technical feasibility survey is already carried out jointly by Afghan and Soviet experts and the blue-print is prepared. Presently construction work has begun on two buildings, one in Pule Khumri and one on Asmayee mountain, which is being carried out by the Afghan Construction Unit.

An automatic telephone exchange will be ins-

talled in Khairkhana Meena, and the Share Nau and Karti Char as well as Microroyan telephone exchanges will be further expanded. These projects are included in the plan. Financed from the DM 20 million credit of the Federal Republic of Germany, an agreement for purchase of equipment, cables etc was concluded in 1978.

After technical and feasibility studies, and work began on the project soon afterwards. Under an agreement with the Siemens Company, a number of technical personnel from the Ministry of Communications were sent to the Federal Republic of Germany, who have returned back home and carrying out the installation of the equipment and the remaining works on the project.

The Mazar-Sheberghan-Maimana-Taluqan and Faizabad project envisage the commissioning of new carrier plants with the capacity of 12 to 14 channels, telephone and telegraph and extension of carrier line between Mazare Sharif, Shibergh-

an, Andkhoi and Maimana as well as Kunduz, Taloqan and Faizabad. For implementation of this project, the required equipment is already procured and work is in progress for construction of buildings in Faizabad, Andkhoi and Shiberghan. The channel line between Mazar-e-Sharif and Shiberghan is already extended.

Shamshad Project: In view of great achievements in the field of communications and to provide further facilities in the field of international telephone and telegraph via satellite as well as for exchange of TV programmes via satellite, the commissioning of a satellite station was part of the developmental plan of the Ministry of Communications. Under this plan the Mars satellite station was commissioned on temporary basis in 1359 H.S. And last Afghan year the permanent "Shamshad" station, with initial 12 telephone and telegraph channels and for exchange of TV programmes via Interputnik satellite was commissioned. The "Shamshad" station is installed through grant-in-aid of the friendly Soviet Union.

The present telex station with the capacity of 80 lines was commissioned several years ago, which

falls short to meet the growing demands for this service. Thus, the expansion of the telex station from 100 to 200 lines is envisaged and arrangement is already made for purchase of the required equipment.

Presently most provinces in the country lack automatic telephone exchange. Thus, substitution of local and central batteries systems into automatic exchanges were included in the developmental plans and it was decided to purchase the required equipment and goods from the GDR credit. The agreement for purchase of equipment for Charikar, Pulikhumi and Shiberghan is already signed with the Electro-technique Company of the GDR, and part of the equipment has already reached in the country.

Similarly, the equipment for automatic telephone exchange for Jalalabad, Kunduz each with the capacity of 1,000 lines and for Ghazni city with the capacity of 400 lines is to be purchased from the German Democratic Republic, the agreement on which is already initialled.

To improve the radio broadcasting in the provinces, and other remote areas of the country, the installation of CPB-7 stations are planned in Moqor, Kalat, Helmand, Farah, Urezgan, Nemroz and

Ghazni.

Expansion of postal services in the centre and provinces, is part of important developmental plans of the Ministry. The construction of modern post offices in the down-towns of major cities were planned some of which are completed. Construction of three new post offices in Puli-Charkhi, Mazar-e-Sharif, and Herat are planned.

To carry out survey of a number of projects, a protocol was signed in 1360 with the friendly country of Soviet Union. Under the grant-in-aid of the Soviet Union a number of vehicles worth Afs. 2,773,6000 are already delivered to the Ministry of Communications.

To facilitate the distribution of the newspapers and other publications, the Ministry has set up nine postal zones in Kabul city and the subscription rates are received at 17 post offices to help the subscribers. A number of new vehicles are operating to ensure the speedy delivery of the newspapers.

There are a number of 93 coin telephones in Kabul city and 860 letter boxes.

During the last Afghan year the Ministry published 19 different postage to observe various occasions.

ISRAEL

BRIEFS

LACK OF BROADCASTING FUNDING--Minister of communications Mordekhay Tzipori has warned of the collapse of Israel's broadcasting systems on shortwave abroad and mediumwave to neighboring countries. Tzipori says that over the last 17 years nothing has been invested in these broadcasting systems. In the Arab countries and Iran the number of broadcasts has increased over the last decade from 39 to more than 100 and in Israel it has only increased from 3 to 4. Israel's television transmitter has an output of 200 kilowatt, while Egypt broadcasts using an output of 1,600 kW, and because of this there are difficulties in reception in many areas in Israel. The Ministry of Communications asked to receive 0.5 billion shekels this year in order to begin to deal with the broadcasting system, and all it received was 17 million. [Text] [TA041832 Jerusalem Domestic Service in Hebrew 1800 GMT 4 May 82]

CSO: 5500/4719

SAUDI ARABIA

BRIEFS

SOLAR POWER FIBEROPTICS--Saudi Arabia has ordered optical fibre equipment which will be powered by solar energy. During the next 18 months or so, Plessey, for which this is the first overseas success in that product range, will instal and commission the terminal and line equipment. This will provide six 34 megabits-per-second optical fibre systems, each capable of carrying 480 telephone channels simultaneously. The equipment is being supplied to BICC metals, on behalf of the central region of the Saudi Consolidated Electric Company, based in Riyadh. BICC metals will supply its "fibral" overhead conductor, which has been designed to replace the earth wire on the 92 kilometres of power line. [Text] [GF011228 Manama GULF MIRROR in English 1 May 1982 p 10]

CSO: 5500/4720

BOTSWANA

BRIEFS

ILLEGAL TV BEAMERS ADVISED--An official clarification has been issued over the transmission of television in Botswana. People wishing to operate TV transmission in Botswana must first obtain the approval of the Office of the President, said an announcement issued by the Office of the President yesterday. The full text of the announcement states: "The Office of the President wishes to advise the public that persons intending to operate television transmitters within the Republic of Botswana, whether to retransmit foreign TV programmes or to transmit video tape programmes, must in the first instance obtain the approval of the Office of the President which has portfolio responsibility for broadcasting. The Radio Frequency Management Unit of the Botswana Telecommunications Corporation is only charged with the responsibility of clearing the operating frequency and technical parameters of the equipment used by issuing frequency licences. "Television transmitting stations already commissioned must, with immediate effect, verify whether their enterprises are operating lawfully, and if not, lose no moment in rectifying the situation. "Registration with the Registrar of Societies alone, the possession of a frequency licence alone, or the achievement of both without broadcasting authorisation from the Office of the President does not render the operation lawful, nor can the operation thereby be immune from possible prosecution," added the announcement. BOPA [Text] [Gaborone DAILY NEWS in English 21 Apr 82 p 1]

CSO: 5500/5794

PRIVATE FIRM, POST OFFICE VIE FOR ALARM SYSTEM

Windhoek THE WINDHOEK ADVERTISER in English 7 May 82 p 5

[Article by David Pieters: "Battle for the Airwaves"]

[Text]

A LOCAL firm specialising in security systems is fighting an uphill battle against the Post Office for a licence to erect a private radio-controlled burglar alarm network in Windhoek.

The new alarm system requires a closed VHF radio installation similar to the kind emitting TV or FM signals.

It has the advantage of alerting police or security guards far away from the scene of the crime without scaring away the intruders when the siren goes off.

Mr J J Bormann who heads the local industrial electronics business has the support of Major Allen Collins of the Police's Security Branch.

He also claims that worried businessmen in Windhoek's crime-ridden northern industrial area have stated their desire for such an installation.

In addition, Mr Bormann has on his side an apparent rise in the rate of burglaries and, he argues, an expected stiffening of demands by insurance

companies for stricter security arrangements before issuing theft cover.

But the Post Office maintains a stiff upper lip, with its Postmaster General Mr P W A Senekal adamant that existing public communications facilities are sufficient for the new alarm system.

Existing public communications systems available for use through the Post Office include:

- The telephone line network.
- The multi-user VHF radio network as used by radio paging services and Citizen Band Radio.
- The 29 Mhz shortwave radio channel.

All three lend themselves to a radio remote-controlled burglar alarm system as proposed by Mr Bormann for hire to private and industrial users.

The problem is that he insists that a private VHF radio system would overcome certain technical and operational limitations inherent in the Post Office's alternatives, while the Post Office maintains it is capable of serving the re-

quirements of such a system from its present facilities.

DEADLOCK

At their latest meeting late last month, the two parties reached a deadlock.

Mr Bormann pointed out that he already has a telephone line-based burglar alarm service for hire to clients in Windhoek, but that he wanted to improve on the shortcomings it has and expand the service to points where fixed telephone installations would not be required.

In an interview with The Advertiser he described a new "Rent-a-Holiday-Burglar-Alarm Service" he wanted to launch.

Such a service required installing a radio remote-controlled alarm system at short notice and for brief periods, which the Post Office could not provide by modifying existing telephone connections.

There was also too much human error and outside interference in each of the three Post Office facilities, Mr Bormann argued.

He said Major Collins had given his "wholehearted" support to

the proposed new system.

The system involves pre-coded radio transmitters and receivers linked over the air through a centrally placed repeater aerial.

The transmitter, concealed in some strategic place would emit signals along the closed radio channel without the intruder's notice.

Whereas conventional alarms frighten burglars away before they can be apprehended, Mr Bormann's system, if installed would lead to more arrests and retrieval of stolen goods.

Police Security Chief Major Allan Collins told The Advertiser that "it is urgently necessary that a functional alarm system be put up for the northern industrial area, no matter what type, as long as it works with the minimum of manpower and the maximum efficiency".

He did not commit himself to the system proposed by Mr Bormann unconditionally, although confirmed that he had supported his application to the Post Office.

Asked to comment on the Post Office's refusal to grant a licence for the closed VHF channel required, he said: "The Post Office probably has its reasons."

UPWARD TREND

Major Collins said statistics over the past seven years showed a

IN a late development The Advertiser learnt this morning that Mr Bormann has been granted permission for a VHF licence for a private channel through which to operate his proposed new burglar detection system.

The message was conveyed to him by the Post Office authorities in Windhoek yesterday afternoon.

definite upward trend in theft-related crimes in Windhoek.

The increase was insignificant, however, when measured against other factors such as population increase, growth of the industrial areas and related factors.

Asked for his comment on Mr Bormann's claim that his request for the Post Office's permission was "not an unreasonable demand at this time" and that it was in the public interest that such a system be established, Postmaster Mr PWA Senekal said he disagreed.

The Post Office was

capable of delivering a perfectly satisfactory service for radio-controlled burglar alarms, without going so far as to permit another private VHF channel to come on the air in Windhoek.

Mr Senekal did not want the details to go on record for security reasons, but said "there are wider considerations to be taken into account. Too much is at stake."

CAPABLE

"We are able to ensure a good and capable service with our existing facilities", he emphasised.

Mr Senekal also answered the question as to what was in the public's best interest concerning radio-controlled alarms of the VHF type.

He pointed out that the Post Office had well considered priorities according to which it structured its staffing and capital application.

The public's investment in the existing telephone line system amounted to many millions of rand. Therefore this system had first to be used to its full capacity before consideration could be given to alternative technologies.

Also on the priority list, existing VHF transmission such as TV enjoyed a wider public preference than radio-controlled alarms.

CSO: 5500/5793

RADIO, TV PIRACY HITS SABC REVENUES

Johannesburg THE STAR in English 15 Apr 82 p 11

[Article by Ian Gray]

[Text] The SABC earned almost twice as much last year from advertising revenue as it did from licence fees.

And while total income was up by 17.5 percent — to R201.5 million compared with R171.45 million in 1980 — licence revenue increased only marginally.

"This must be attributed to increasing pirate viewing and listening," says the annual report of the board of the SABC, tabled in Parliament yesterday.

ADVERTISING

Net income from advertising, at R119.56 million, was 28.2 percent higher than in 1980, mainly as the result of an increase to 6.5 percent in the advertising content on TV1 and increased tariffs on both radio and television.

The SABC's net

income from television advertising was R76.5 million.

Programme expenses (the balance sheet does not separate radio and television) accounted for more than R70 million — or nearly 60 percent of total expenditure — an increase of R17 million on 1980. A large slice of this expenditure must have been for TV2/3, the new services that opened this year.

Because TV 2/3 will run at a loss initially, the SABC has written off nearly R42 million in establishment costs for the new channel. Technical costs of R22 million compared with R18.7 million for the previous year can also be attributed in part to the new channel for which R24 million has been set aside for future operating losses.

DEMAND

Despite the increased allocation for commercial time

from April 1 last year, demand exceeded the supply by a large margin and an allocation system again had to be used." Most advertisers had to be satisfied with smaller campaigns than in 1980.

"This," says the chairman's report, "is a matter of considerable concern to the SABC and the advertising industry."

CSO: 5500/5782

WORK ON NEW INTERNATIONAL TELEPHONE EXCHANGE TO BEGIN IN SEPTEMBER

Lusaka TIMES OF ZAMBIA in English 26 Apr 82 p 4

[Text]

ERICSSON Zambia is to start work on the new K3.2 million Lusaka international telephone exchange by September.

The electronic exchange which is to usher Zambia into the latest telecommunication technology will enable subscribers to dial directly anywhere in the world.

This was confirmed in Lusaka at the weekend by Ericsson company marketing manager Mr Peter Brookes, who said the project was expected to take 24 months.

He was speaking in an interview during a cocktail reception in Lusaka to promote new Ericsson logo. It was attended by Swedish ambassador to Zambia Mr Goran Hasselmark, representatives from architectural and engineering firms and heads of parastatals.

Mr Brookes recalled that the exchange project was awarded to his company after the signing of the contract with Posts and Telecommunications Corporation director-general Mr Philemon Ngoma on December 14.

He said feasibility studies for the exchange had already

been completed and Ericsson had since received confirmation from Sweden to go ahead with the work.

He said work would involve carrying out modification on the existing telephone exchange before installation of the new electronic exchange complex.

Mr Brookes said his company's operation in Zambia was split into two sections — the public exchange and private market with a view to providing effective telephone communication systems to private companies.

One problem that his company could foresee before completing the project on record time was lack of foreign exchange and "this goes for all our projects".

Mr Brookes was supported by Mr Eddie Carroll, Ericsson projects manager, who said the completion of the Lusaka international exchange project would depend on coordination of distant telephone administration in other countries.

CSO: 5500/5788

FEDERAL REPUBLIC OF GERMANY

TELECOMMUNICATIONS INDUSTRY SEEN AT DECISIVE STAGE

Duesseldorf HANDELSBLATT in German 1 Apr 82 p 12

[Discussion with SEL Chief Dr Helmut Lohr: "Delaying Communication Technology Programs Endangers 100,000 Jobs"]

[Text] Stuttgart--The German electrotechnical industry is at a decisive point affecting the industry's future and about 100,000 jobs. Presently, in the assessment of Dr Helmut Lohr, chairman of the board of Standard Electric Lorenz AG (SEL) and vice president of ZVEI, the industry is "on the leading edge" of development of new information and communication methods. If the Post Office does not quickly decide to make use of the new technology, the competitive edge will be lost and German industry will be "run over" by the Japanese, U.S., British and French industries.

The affected German industry, including data processing and recreational electronics, represents a production volume of DM 30 to 35 billion, of which almost 50 percent will be sold abroad. About 365,000 people are employed in this sector. Lohr, as he explained to HANDELSBLATT, sees as the decisive new techniques: microelectronics as a basic technology; digital electronics as a provider of new equipment which transmits with lower susceptibility to interference and has other possibilities; software engineering and optical information transmission by means of lightwave conductors, or glass-fiber cables.

These developments are dependent on the Post Office since, with 1980 investments of about DM 8 billion, it is the most important customer of the communication technology and cable industries. In this the Post Office is not only decisive in the domestic market where it also determines the competitive environment by its demand behavior, but even more export opportunities largely depend on the national use of new communication systems by the Post Office.

For one thing, the domestic market must offer the volume base for suitably priced manufacturing facilities; for another, the domestic market is important as a reference for foreign interests. When looking at exports, Lohr stresses, one must consider that only 30 percent of the world market outside the FRG is still freely accessible.

The Japanese and U.S. communication industries, supported by their large and protected home markets, will push more and more into these markets. To survive in this competition, it is "more vital than ever" to have the support of the Post Office and the consulting activities of DeTeCom (German Telepost Consulting) founded on German technology and the experience gained from activities in the developing countries. The recognized high technical requirements of the Post Office--and this makes the domestic market especially important as a reference--has "often proved to be the prerequisite for German manufacturers' international competitive capability."

Post Office Falters

In Lohr's view, the Post Office does not treat all of the new, expanding technologies the same. Digitization got off to a good start, and here the Post Office is "proceeding correctly." In May/June the companies which were invited to make offerings will present their display systems. SEL is placing high hopes on its System 12. Following this begins the operational test phase. The system selection decision is probably not to be expected before 1983. Overall, the industry anticipates that digitization will be expanded on a timely schedule.

More difficult of course is the question concerning optical information transmission. True, the Post Office has made a good start with tests of glass-fiber cable networks. Thus, project BIGFERN (Broad Band Integrated Glass-Fiber Long Distance Network) and the pilot project BIGFON (Broad Band Intergrated Glass-Fiber Telecommunications Local Network) are steps in the right direction.

Now the Post Office has wavered. That is, further decisions, regarding for example the start of large-scale "wiring" in 1985, have been postponed. This jeopardizes--not just in the cable and communication industries but also in the up-stream and down-stream companies--a total of about 100,000 jobs.

Lohr concedes that industry must share the blame for developments which led to the lamentable "stalling" in the political arena which is reflected in the actions of the Post Office. In order to illustrate to a broad public the advantages offered by glass-fiber cables, the potentials for cable TV were emphasized. The "political hawks" pounced on exactly the same topic. The result is that cable TV is the only concept being discussed, and it is cleraly one of the least important areas served by optical communication transmission. Of course, the transmission of multiple TV programs is a significant economic and utilization detail for broad-band optical systems; however, of much greater importance for the future is the capability for network transmission of speech, various types of data and pictures.

The new information and communication methods based on glass-fiber technology (cable TV can also be realized with conventional cables) are, in the unanimous opinion of the experts, in one of the few—if not the only—growth areas for the industry in the foreseeable future. This is also true abroad. If a company wants to profit from the worldwide growth opportunities—estimated at 6 to 7 percent for telephones, 7 percent for teletypes, 18 percent for telecopiers and 13 percent for data terminals—it must offer the most modern technology for which the German domestic market is both the base and the reference.

To be able, for example, to economically manufacture the most modern microelectronics in the form of VLSI circuits, numbers of at least 100,000 parts per year per factory are required. For glass fibers the lower limit of economical production is at least 1 million km of glass fiber per factory per year.

Lohr believes that such quantities will be altogether producible and financeable starting in 1985. The ability of the Post Office to finance new projects will be eased starting in 1985 since investments for conventional technology will decrease and this decrease will only partly be consumed by the program for converting to digital networks.

It is estimated that there will be 30 million telephone subscribers by 1990. Based on this estimate, "cabling" can be projected for completion inside of 30 years with the addition of about a million subscribers per year.

Investment of an average of DM 3 to 5 billion per year is entirely feasible. Presently, about DM 9 billion per year is being invested in the overall communication field. A large part of the new investment can be used for things other than upkeep of the present network. Also, there would be further investment leeway if the Post Office's payback to the Government, presently 10 percent of operating income, could be reset to the original figure of 6.66 percent. Additional investment money will also result from the annual 5 to 8 percent growth in postal income over the next several years.

It is also important that the Post Office make its decisions soon so that industry can invest to produce the new-technology equipment. Each day lost is dangerous since other countries have already made decisions in this area. For example, Great Britain (British Telecom) had made the decision to construct a glass-fiber cable network, and members of the Thatcher Government have proposed to the German Government that this new technology be supplied for use in the FRG.

Even though it would make it easier for Great Britain and other countries to penetrate the German market, Lohr favors standardization and harmonization—across national borders—of technical properties and

interfaces in communication technology. Only in this manner can undistorted communication and equality of opportunity for manufacturers be guaranteed. Also here the Post Office, alongside industry, plays a special role on international committees.

Actions affecting manufacturers of end equipment and even entirely new sectors with regard to growth and employment are not to be overlooked. But even without new support initiatives, especially in view of present and foreseeable economic developments, companies must grab whatever opportunities exist.

9160
CSO: 5500/2199

FRANCE

FOREIGN COMPETITORS, NATIONALIZATION AFFECT COMPUTER INDUSTRY

Paris L'EXPANSION in French 19 Mar 82 - 1 Apr 82 pp 75-79

[Article by Jacques Fontaine: "The Computer Industry Puzzle"]

[Text] Puzzle or erector set. They don't like these words in the executive suites: the nationalized enterprises are not pieces in a parlor game. Yet, the imagery is appropriate, at least for data processing. Since 1963, a succession of "plans"--nationalist under de Gaulle and Pompidou, liberal under Giscard--have shifted the dancers in the square without successfully providing France with a totally convincing data processing industry. And now, all at once, the participants--Thomson, CGE, Saint-Gobain, and Matra--have come under the authority of the government, which is no longer satisfied with suggesting, underwriting, and protecting. Henceforth it organizes and takes charge. And the selfishness of profit is no longer supposed to interfere with long-range goals and well-balanced combinations. The wheels and gears are scattered on the bench: master watchmaker, get to work!

"French data processing? It's a joke!" Jean-Claude Zanolli, 38 years old, president and general manager of Memorex-France, is a happy computer industrialist. His enterprise, specializing in supplies compatible with IBM computers, has seen a growth rate of 25 percent; this is a brilliant result, although not exceptional in this effervescent industry. Diametrically opposed to the ambitious and money-losing giants, he believes only in the hunt for profitable slots, which are quite numerous. "If you want to act like IBM you will fall flat on your face. If you can't beat him, join him. The future belongs to small, flexible, and fast enterprises, which are not afraid to change their platform every two years." No other salvation except through the two gods of competition and profit: "The moving force of capitalism is not money, but the need to make it!"

These two points of view could become a fable, entitled "The Californian and the French Business School Graduate," like the Wolf and the Dog. Before assessing the prospects of French data processing, we must not forget that these two paths are always available: planning and marketing; two lines of reasoning, two temperaments, two strategies. And that while the first of the two is the order of the day, it will succeed only by maintaining open lines of communication with the other.

No, French data processing is not a laughing matter. It ranks third in the world after the United States and Japan, and first in Europe. It plays a role in all essential sectors. It exports. It is a grey-matter activity in which our particular form of intelligence thrives. Granted, it is fragile. It still needs nurturing. None of its strongholds are invulnerable. And things are moving so fast! Let us examine its strengths and weaknesses in each major sector affected by the wave of nationalizations.

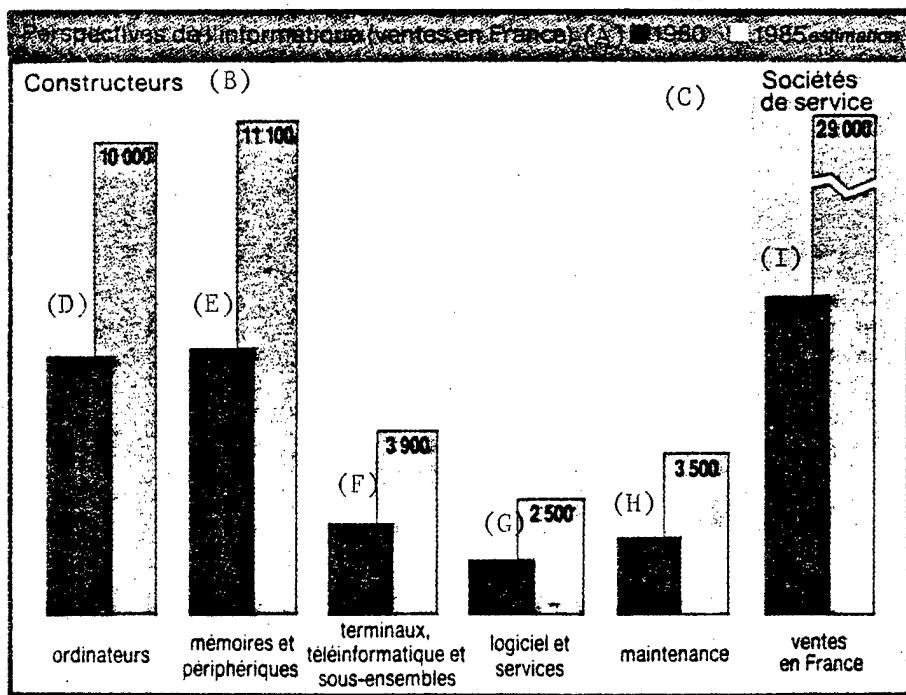
First of all, conventional data processing, the data processors' data processing, with its computers, large and small, and its networks. It includes CII-Honeywell-Bull (CII-HB) covering the field, and Thomson (through its Sems subsidiary) in between. Two enterprises whose financial situation, regardless of nationalization, was in need of intervention.

CII-HB is not nationalized as such; but its major stockholder, Saint-Gobain, is. This unfortunate enterprise has always had traumatic relationships, bandied about among its stockholders (Thomson and CGE, followed by Saint-Gobain; then General Electric, and Honeywell, and then of course, the government); they have all been powerful, jealous, and unclear in their intentions. The company does have its strong points: technical competence, an experienced staff, international recognition (6 percent of the European market), and a wide range of products. It also has its weaknesses: its plants do not always run very smoothly, its product line is a French-American miscellany, and the wolf is at the door. This being said, the company has the major virtue of being there. It is our only entry in the large scale data processing race. How should it compete?

In terms of trade and strategy, the incontrovertible factor in this sector is IBM's massive, world-wide, and uneroded domination. You either face this fact once and for all, and you develop in the wake of the American giant by making "compatible" equipment, using IBM-based software. The advantage: you automatically tap 70 percent of the world market. The drawback: you must be competitive, or IBM, if it wants to, can tip you over at any time. This has been the choice of the Japanese and the other Europeans (ICL, Olivetti, Nixdorf, Siemens). Or you ignore the fact, and you develop your own software, which is good for independence but bad for marketing. The American compatibles (Amdahl, National Advanced Systems, Magnuson), although newcomers, are in much better health than the non-compatibles (Burroughs, Sperry-Univac, Control Data, NCR, and Honeywell, not to mention the ones who died of it). It comes as no surprise that the CII-HB computers are not IBM-compatible either.

For the immediate present, CII-HB will have to clear the Honeywell mortgage. In the 1976 agreement, a brilliant lawyer had inserted a clause whereby, in case of nationalization, the American partner could withdraw within 60 days, in return for compensation. In Minneapolis, they are pondering how to play their cards: the salesmen would regret a lost market, while the money men would welcome an influx of new cash, and would not mind getting rid of an unpredictable ally. In all likelihood, the American company will reduce its participation, will cash in its chips (there is talk of 150 million dollars) and will remain in France to sell as long as the selling is good.

UNE INDUSTRIE EN CROISSANCE RAPIDE



A rapidly growing industry: the turnover of data processing equipment manufacturers will double in five years. The most rapid growth will occur in software, maintenance, and telematics. The development for service companies will be explosive; it is currently 24 percent per year.

- Key:
- (A) Data processing prospects (sales in France), 1980 and estimated 1985
 - (B) Manufacturers
 - (C) Service companies
 - (D) Computers
 - (E) Memories and peripherals
 - (F) Terminals, teleprocessing, and subassemblies
 - (G) Software and services
 - (H) Maintenance
 - (I) Sales in France

Sources: European Data Processing Markets (Eurotronics) - Dieli

CII-HB will then have to adopt a less disorganized trade strategy. The question is whether to take the products borrowed from Honeywell and make them French. This could no doubt be achieved, but it would be slow, costly, chancy, and probably not necessary. As they say at the French head office: "The important thing is not to manufacture the whole line, but to be in a position to offer it." The other question is whether Honeywell is the best possible partner; it probably isn't. Rumors regularly arise that it is tempted to leave the data processing field; it won't be easy to involve it in ambitious projects. What then should be done? Choose the compatible option? Alone? Or with whom? With the Japanese? The ICL precedent is hair-raising: "There is no balanced partnership possible with the Japanese," says Maxime Bonnet, president and general manager of CII-HB. With Siemens? The Unidata wound is barely healed. Let's go even further: does national

independence really require maintaining the fierce competition which prevails on the now familiar, major market of mass produced management computers? If you are very good, you can certainly make a pile of money; but there is an equally great risk of losing piles of it.

Added to these uncertainties, we now hear--from IBM--a siren song: "Are we not also, in Montpellier, in Corbeil, in Bordeaux, a large French enterprise?" Which by extension, means that the large data-processing train has left, it's pointless to run after it, leave it to us at IBM, or rather cooperate with us, why not, after all? That's good enough for us, the superb isolation is over, and look, even the French army uses IBM machines!

Such a radical conversion is not at all likely: General de Gaulle would turn in his grave. But the CII-HB efforts could instead lead to a machine at the very top of the line, of the Cray or Univac type, and thus larger than the largest IBM. The company is capable of doing it; it would maintain its staff in shape, and given the nature of the few potential customers, competitiveness would not be very important. So much for independence, "which is not in production, but in competence," in the words of an old-timer. Mass produced machines are a purely industrial matter, and we cannot overlook any possibility, even if it leads along the road to compatibility.

All of this will require money, and this is where nationalization can make a difference. Data processing is a growth industry which is hungry for capital; and CII-HB has always been undercapitalized. Its last stockholder, Saint-Gobain, which Giscard had selected as backer, ultimately invested much more in buying back 30 percent of Olivetti, than it had at CII-HB. This was the major grievance of Jean-Pierre Brule, CII-HB's president and general manager, and was no doubt the cause for his dismissal in June 1981. The irony of the situation is that persistent rumors--maneuvers, false leads?--were hinting, even before the head of the nationalized Saint-Gobain was named (and especially before he had presented his "corporate plan"), that the company would be stripped of its data processing holdings. Poor Jean-Pierre Brule, fired by someone fated to be fired himself! For CII-HB, in any case, it matters little whether Saint-Gobain remains the government's agent or not; it can expect more generous capital allotments starting this year.

In the field of minicomputers (where CII-HB is also active), the other major enterprise affected by nationalization, Sems, a Thomson subsidiary, has reached a total impasse. Created in 1976 as part of the reorganization which gave rise to CII-HB at the time, "it pulled off the fantastic stunt of wedding the two best French minicomputers (Mitra, inherited from the former CII, and Solar, from Telemecanique), without getting anything out of it," in the words of an ill-intentioned competitor. Its cavalier attitude toward data processing is not the least among the many criticisms aimed at the unfortunate Thomson. It failed with minicomputers as it did with videotape and videodiscs. The least acquaintance with the increasingly overlapping mini, micro, and peripheral markets, with their complex and frantic competition, their irresistible drift toward "mass distribution" (mass production--Darty de luxe--preponderance of distribution, customer volatility, constant performance and price wars), makes it clearer to see why Thomson, more accustomed to selling missiles in ministry corridors, and in spite of the protection it enjoyed, was out of its element.

In 1920, there were two hundred automobile manufacturers in the world. Today, there are no more than about a dozen. The minicomputer industry is still in the bloom of its youth, but no one can say who will survive in five years, especially when faced with the gathering Japanese tidal wave. Everybody knows the key conditions for survival: a critical international size (5 percent of the world market, even if only in a very narrow slot), and mastery of component fabrication, which is essential. According to the same persistent and premature rumors that have already been mentioned above, Thomson and CII-HB (whose Mini-6 has only the one flaw of being a Honeywell model) might be invited to combine their weaknesses in minicomputers. There is no assurance that this will be enough.

After large and small computers, the third sector affected by nationalization is office automation, and the effect is two-fold.

First a decision will have to be made regarding Saint-Gobain's 30 percent participation in Olivetti. This was the key factor in a grand office automation scheme in which Roger Fauroux wanted to involve Saint-Gobain. The choice was not a bad one, but unfortunately, Carlo De Benedetti, the head of Olivetti, did not seem to share his ideas. If Saint-Gobain definitely withdraws from the data processing field, the wisest course would be to let the Italian partner pursue, without us, his Florentine game of American and Japanese partnerships, which incidentally, is a successful one.

The other opportunity (and a major one) is offered by Alcatel-Electronique, a CGE subsidiary. In the coming years, the computerization of tertiary activities--office automation--is going to develop faster than all the rest; its turnover may exceed that of data processing as such. It does not rely on a single technology, but rather on a combination of means--data processing, to be sure, but also typing, private telephones, telecopying, reproduction, micrographics. It thus becomes a meeting ground for firms of various backgrounds, each one endowed with a different expertise and yet lacking some technique or know-how: IBM and others bring their minicomputers, Olivetti its typewriters, Xerox its duplicators, and CGE its digital telephone switchboards, a nice recent technological breakthrough.

Given the magnitude of the competition from IBM, Xerox, or the Japanese (already on the European data processing scene under the guise of Siemens, ICL, or Olivetti), the battle will be a stiff one. But they are all starting approximately on the same footing, and CGE stands a very good chance. "Our competence is in telecommunications," says Georges Pebereau, whose position as head of the nationalized CGE was recently confirmed. "It is the most difficult link in the office automation chain. We have a large distribution system throughout the world, with the recent reacquisition of the Friden and Roneo networks. We're already at the height of our industrial phase, and concentrating our research on the key technologies of the future, such as specific components and fiber optics." In short, the strategy looks good, and a spot is already waiting for Alcatel office automation. Finally, CGE's cash needs are not as urgent as those of others. It wants only one thing, to be allowed to carry on undisturbed.

The last sector where nationalization could reshuffle the deck, is components. The nationalized enterprises--Thomson for a long time, CGE more recently, and CII-HB in association with Amdahl--are busy manufacturing sophisticated integrated circuits adapted to the requirements of their assorted equipment, but until now have not

attempted to carry out these activities at a really industrial and competitive level. When it became clear that our inactivity in the field of standard components stood to hamper our entire industrial development, a "components plan," launched in 1978, sought to establish mass production in France, notably by relying on two new enterprises, Matra and Saint-Gobain, associated with American companies for the purpose.

Infernal Competition

But here's the rub: while our researchers and industrialists are certainly not incapable of designing mass production circuits, we have a dramatic gap in know-how, in the technologic cookbook skills which more than anything assure the competitiveness of production lines. What's more, the new plants had the misfortune of starting in 1980, when the world semiconductor industry was torn by its customary crisis every five years. And in any case, they are still learning by duplicating American models, without the least assurance of eventually attaining the expected autonomy with respect to their associates, and parity with their competitors, whose pace continues to be infernal. In short, Andre Giraud's strategy ("Go to it kids, fight it out, and may the best man win") has not proved successful.

The questions are: Should we continue, that is, launch a new components plan, knowing that it would require a great deal of money and time ("ten years," according to an expert) to catch up with the leaders? Has the time come to concentrate our efforts--and on whom? Were the partnerships the best that could be made? Were they not poorly balanced? Isn't the outright acquisition of a leader, as is the common practice in the field, the only way to catch up (it is said that Saint-Gobain nearly bought out its partner, National Semiconductors)? More fundamentally, what is the best bet for the manufacturer-user: design and make his own circuits, because according to some, this is the only way to remain independent and in the running? Or else buy them, because according to others, it is impossible to ever produce cheaper and better than the Americans and the Japanese, who are more than ready to sell them to us? The issue of nationalism versus the marketplace is not new, nor is it resolved.

The Feather in Our Cap: Software

In any case, with its strengths and weaknesses, the new nationalized sector does not show the whole picture of French data processing. Far from it. Alongside the big names, minicomputers and peripherals are experiencing a flowering of medium-size enterprises, some of them with an uncertain fate (Logabax, which was bought out by Olivetti), while others are off to a very good start (Benson, which has 20 percent of the world market in plotters, its specialty). Service companies are also thriving, this being a dynamic and competitive grey-matter sector, where France holds an easy second place in the world after the United States, in an area which is all the more important, since software, where we excel (IBM itself buys it from Dassault!), constitutes a growing part of the data processing turnover. Nor should we overlook DGT (General Telecommunications Directorate), a powerful and original structure which will henceforth be a major participant in data processing. Were it not a government agency, DGT would have all the attributes of a first-rate multinational company: world-caliber technology, considerable financial resources, international penetration (satellites, standards, networks), vast strategic scope (such as their selection, controversial a few years ago, of the time-switched

telephone, which now prevails and supports CGE and Thomson throughout the world). All these elements also figure on the game board where Pierre Dreyfus or his successor will now make his moves.

What picture will emerge from the puzzle once it is fitted together? Despite the persistent rumors (see above), no one can say with any assurance today. The new heads of the nationalized enterprises will polish up their plans, and in a few months, the government will reach an agreement with them, which will establish employment and investment objectives. But on Rue de Grenelle they say that the "kriegspiel has not yet begun." We will therefore conclude with a few observations, just to place the coming events into perspective.

The world battle in this sector will become truly formidable. Ending the lawsuits conducted for years against IBM and AT&T--a major ruling which has not been discussed very much in France--the United States Supreme Court has returned to the two large American companies their freedom of movement. Everything conspires to pit them against each other, IBM turning toward telecommunications, and A.T.&T toward data processing; and when two supergiants fight, the small fry runs the risk of being hurt. This does not even reckon with the Japanese, who everyone agrees will carry out a massive penetration into data processing during the 1980's.

However, this does not mean that you have to be a giant to succeed. There is IBM, of course, but there is also Apple, which was started in a garage by a few friends, with their own money. "It's not size that brings success, it's success which brings growth," states Jacques Stern, owner of Sesa, the developer of Transpac. And while the French have learned management, they are still mediocre in innovation and product policy: "Anyone could have made Sony's Walkman; Thomson, for instance," notes a high executive. "What counts is the capability to innovate, mobility, and it is not in the large companies that most of it is found." Nor, will we add, in the large nationalized groups.

However, what could nationalization contribute? The industrialists' expectations are high: that the government be aware of the stockholders' responsibilities; that it provide financial aid, not through even-handed scattering, but according to a rational plan (each one hoping that the other one will be sacrificed); that it carry out some necessary regroupings, but that it respect the autonomy of enterprises; that it follow a grand design, but that it not forget the large, prestigious machines; that it learn to work fast; that it understand where there is a need for monopoly and where there is a need for competition. In a nutshell, that it should finally have a "genuine" industrial policy. The questions are: Why was it not able to have it before this? And is it sufficient to have regrouped ownership titles for the government to have such a policy now? In turn, the government expects the heads of enterprises to learn another game, in which they will--paradoxically--have greater responsibilities and be freer to act within the framework of a clearer contract; and it also expects them to "internalize public constraint." Here again, a grain of skepticism is not out of order.

Full Time Reflexes

Data processing is a very engrossing trade, which history has proven can be practiced well only if it is practiced exclusively. It requires reflexes that can be acquired only with full-time attention. In the United States IBM has succeeded, RCA or General Electric did not. In France, Thomson and CGE lost twenty years in hesitation. Here, the Napoleonic demands of unity and concentration of forces assume their full meaning. And if CII-HB is to finally achieve a stable perspective, let it obtain it from the master, without intermediaries.

Finally, the future turn of events will greatly depend on the one who, during the coming months, will flex the strongest muscles. "Nationalization will start a fantastic brawl in the compound," predicts a young dog, still too green to tussle with the pack. The new heads of the nationalized enterprises are known, except for two of them: Maxime Bonnet's successor at the helm of CII-HB, and--eventually--Roger Fauroux's at Machine Bull, which controls it. The latter could be Bernard Esambert, to whom the government has just entrusted the task of negotiating with Honeywell. Gerard Thery's name is being mentioned as leader of CII-HB; he is the former director of DGT, the man who "gave France the telephone," and his activism and ambition are well known. "It should be a theryfying brawl," as they say!

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ADVANTAGES, MARKETS, PLANS FOR TELECONFERENCES DESCRIBED

Paris AVIATION MAGAZINE INTERNATIONAL in French 1-14 Apr 82 pp 27-31

[Article by Raymond Auffray: "Telecommunications and Air Transport: Friends or Foes?"]

[Excerpts] In the modern business world, considerable time is consumed in traveling to and from meetings. Resultant expenses are at times prohibitive, but in most cases fatigue is certain. It is no surprise, therefore, to find a steadily growing interest in new long-distance, person-to-person communications techniques. A working group of the European Postal and Telecommunications Conference, and J.J. Shepherd, president of Leigh Instruments (Canada), have both suggested that teleconferences and video-conferences would soon be capable of replacing 20 to 30 percent of the travel necessitated by business meetings. This situation is likely to cause commercial airlines some concern.

Several Hours of Travel

Attending outside meetings--i.e. those held away from one's own place of business--obviously necessitates travel by car, train, or plane. Of the 1.3 billion man-hours of work done by white-collar workers in France, more than 31 million are spent in traveling, and almost all of this travel is done by executives or managers. More than 30 percent of all general executives or managers spend from 2 to 4 hours daily in travel to or from meetings. Executives were surveyed in late 1979 about their views on the time consumed in travel to and from outside meetings. Their opinions clearly reflect the disagreeable aspects of such business trips: costs, fatigue, and time wasted. While no replies were received from 23 percent of the senior executives polled, 8.3 percent said they were completely dissatisfied, 10 percent were rather dissatisfied, and 27.4 percent slightly dissatisfied. Corresponding percentages for all executives [senior and junior] surveyed were respectively 10.7, 8.6, and 22.5.

Under these conditions, it is not surprising that teleconference methods are already stimulating a great deal of interest, even though these methods are more often than not overlooked because they are still in their initial stage of implementation.

Among executives, the percentage of those having a "favorable" opinion of such conference methods varied generally from 41.9 percent to 42.4 percent depending on whether they held "general" management or "specialized" management positions. In late 1979, 4.9 to 6 percent already reported they had a "very favorable" opinion of these methods. Quite naturally, videoconference methods were preferred to teleconference--audio only--methods, undoubtedly because the former includes the familiar face-to-face approach.

Teleconference: A Business Tool Already on the Market

Access to the French teletypewriter-equipped teleconference system has been commercialized since January 1977. This system can furnish teleconference service to two or more groups of persons remote from one another. This service is provided mainly by France Cables and Radio Company, a subsidiary of the Postal and Telecommunications Administration (P et T).

The equipment used is made by several manufacturers, including CIT-Alcatel. This service is designed to obviate expensive and tiring business and professional trips, speed up decision-making, and further real decentralization without impairing information-exchange conditions. Basic teleconference equipment consists of a special conference room with table, armchairs, microphones, loudspeakers, and an electronic control unit. Optional available equipment includes: a teletypewriter employing a two-color TV receiver (offers conferees the capability of working on the same diagram or sketch); a facsimile system capable of transmitting a 21 by 29.7 centimeter document in 3 minutes; and telephone access into the system by persons not in the special conference rooms. At the present time, the Postal and Telecommunications Administration has 60 studios ("telecenters") for public use. They are in the principal cities, and three or four studios can be interconnected (multiconference). Rates include the hourly rental of a studio (150 francs exclusive of tax) and the calling service charge (90 francs per hour, exclusive of tax, between two studios). In addition to this public service, France Cables and Radio Company also provides leased private studios and service. There are already 140 such studios in France, particularly in the aerospace industry. Firms leasing such facilities and services include Matra, SNECMA (between Corbeil, France and Cincinnati, Ohio), Aerospatiale (Between Cannes and Les Mureaux), and SFENA (between Velizy and Chatellerault). The cost of a private studio is some 100,000 francs plus P et T installation charges. But above a certain level, leasing proves to be definitely more attractive. For example, 10 meetings per month with seven conferees each costs 187 francs per conferee. The company secretary of a PME [Small-and Medium-Size Business] located in Orleans, Vienna, and Nancy, recently said that teleconference services had enabled him to save 269,000 francs in company travel expenses.

Videoconference Service to be Operational by 1984.

The Postal and Telecommunications Administration already provides (experimental) videoconference service from four public studios in Paris, Lyon, Nantes, and Rennes. In addition to the teleconference capabilities mentioned above, this service also includes a live television-grade black and white picture (Codec system). The conference room is equipped with an automatic-switching control

unit which is used to select the sound and picture of the person speaking and transmit these to the remote group of conferees. This transmission is over a high-speed digital channel via the national system or by means of a specialized link. Videoconference rates for the use of two public studios range from 1,200 francs for the first hour to 4,300 francs for 4 hours.

Several technical improvements are expected. For the near future, these include a high-speed--a few seconds--document facsimile system and a multiconference capability (several intercommunicating conference rooms). Improvements by 1990 include color transmissions and large screen projection of enhanced quality pictures. In the meantime, the Telecom-1 communications satellite will also make these services possible.

Videoconference via Satellite

Telecom-1 will be placed in orbit by an Ariane launcher during the third quarter of 1983, more than 2 years after the first American SBS [Satellite Business Systems] "communications" satellite. Telecom-1 is the first French communications satellite and is primarily an operational program designed to provide business services. In addition to providing communications links with overseas departments and for the Ministry of Defense, it will also offer new "communications" services, namely high-speed digital routing of intracompany communications: electronic mail, facsimile, data transfer by computers, remote-controlled printing of newspapers, and videoconferences.

The all-digital format will permit, in comparison with analog transmissions, additional capabilities in time division multiple-access and demand-assignment functions. It will also reduce the volume of equipment required for ground stations. The system calls for a large number of stations linked to each other within a terrestrial network. Rates, which have not yet been determined, will be proportional to the traffic, with reduced rates during off-peak hours, this independently of the distance involved.

Because of the anticipated increased demand, the rather limited capacity of this first system, and cost factors, it is logical to assume that teleconference services will initially depend mainly upon the terrestrial network. The fact remains, however, that with Telecom-1 France is firmly banking on the future. Moreover, consideration is already being given Telecom-1's successors.

Promising Market

France Cables and Radio Company estimates the market for teleconference services alone to be approximately 600 French firms. In addition, there are also markets in several other countries--Benelux, Africa, United States, and Brazil--for the company's own equipment (because it is already present there). On the other hand, for videoconference services we will probably have to wait until 1984 to see the development of private studios.

For several reasons, particularly the rising cost of transportation, the demand for such services is known to exist. Business men are now already avoiding many business trips by increased use of the telephone and telex (an executive

makes an average of nearly 2,000 telephone calls per year). In this connection, a few comparisons may prove surprising.

For the price of a round-trip Paris to New York flight by Concorde (15,960 francs), it is possible to use the telex service for 33 hours, in other words transmit some 12,000 lines. A round-trip at business class fare equals 12 hours and 20 minutes (4,500 lines) of telex transmissions. A like comparison between Paris and London shows that the business class fare is the equivalent of 11 hours of telex use. The price of an airline ticket from Paris to Marseille corresponds to 11 hours of telex. One more example: it is possible to telephone for nearly 6 hours from Paris to Lyon for the price of a round-trip flight (882 francs). The telephone and telex do not, of course, have the advantages of a teleconference which also costs more. But the aforementioned firm's savings of 269,000 francs in one year alone through use of teleconferences would, after all, pay for about 300 round-trip flights on Air Inter. Better still, to save a maximum of time, the Dassault Aircraft Company is currently considering the use of a teleconference service between two sections of its research and development department. These sections are located near to each other, one in Saint Cloud, the other in Suresnes.

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FRANCE

DATA PROCESSING INDUSTRY SAID TO LACK PROGRAMMERS, TECHNICIANS

Paris LE MONDE DIMANCHE in French 25 Apr 82 pp 3,4

[Article by Daniel Schneider: :The Hunt for Data Processors"]

[Excerpts] From prospection in schools to head hunters, no holds are barred in the effort to entice away the all too scarce data processing specialists that are so sorely needed by businesses today.

"It's crazy!" exclaims Helene Peureux, of the APEC [Staff Employment Association], brandishing the bulging file of data processing specialist job offers that have appeared in the press and have been surveyed by the association. More than 1,000 offers a month, five times more than for accountants, for example. "The advertisers go so far as to point out that their firm is located 20 minutes away from ski trails."

There can be no doubt, the hunt for data processing specialists is on with no end in sight. And not only for management types. In the halls of the IUT [University Institute of Technology] of Paris, job offers for starting analyst-programmers have reached record highs--exceptional ones, it is true--of 150,000 francs a year. A counts shows an average of three job offers per student. The record is held by the IUT of Clermont-Ferrand, which in 1981 received not less than 300 job offers for 74 students. And this figure of 300 was reached in just two postings when one firm alone tried to employ a batch of 30 to 40 young graduates. "The flurry of offers makes it no longer possible to keep an accurate record," they sigh.

"It's a dire shortage," is the lament voiced by the world of the console and the terminal. From the CII [International Data Processing Company]-Honeywell Bull to the smallest service company, from the Credit Lyonnais to the head hunters, systems engineers are tracked, analyst-programmers are stalked, network specialists are chased; no red carpet is too long to welcome the scarce students in the few sought-after disciplines, when they deign to come and have detailed for them the alluring career prospects in store.

Really a shortage? "Rather a misfit," says the APEC by way of correction. For, all qualifications are not necessarily paying ones. The transition from highly centralized batch data processing to "distributed" data processing has changed the nature of personnel needs. The first required data acquisition operators,

console operators working in specialized shops with several tens of persons. The demand having stagnated, those persons make up today the majority of the some 10,000 unemployed¹ among 180,000 data processing specialists.

The current quest is for managers of the new networks, architects of the new data bases that are now mushrooming. "The problem," says Didier Kessler, a Parisian head hunter, "is finding data processors who are also production managers or logistics managers."

"The popularization of minicomputers for management and industrial production applications is creating a vast opening for clever designers in the field of specific applications such as teleprocessing or word processing," says the APEC, pointing out also a lack of marketers (capable of selling equipment as well as services such as training, maintenance or technical assistance). All functions dealing with data processing security and auditing also appear destined to undergo development. "The data processing specialist will more and more be a plumbing specialist," in the opinion of Bertrand Girod de l'Ain, an instructor at Paris IX. "His or her brainteaser will be to interconnect the different networks among themselves."

The most diligent recruiters are the SSCI's [data processing services and consulting firms], the majority of which are having to turn down orders for the installation, startup or maintenance of programs, owing to the lack of personnel. Their average growth rate--at around 20 to 30 percent, it is enough to make a steelmaker's or a textile manufacturer's head spin--could be even higher. Principal victims of the shortage as they are, the service companies are also being plundered by their own clients, for whom "it is an excellent bargain," says Agnes Chauvin, a data processor recruiting consultant with the EGOR [expansion unknown] group. "The client sees the analyst at work over a period of 3 to 6 months. If the analyst gives satisfaction, the client will unfailingly offer the analyst a job on his staff."

"Lecture-Room Solicitings"

And all efforts to check this pirating are in vain. Some service companies try to insert nonemployment clauses into their service contract, "but I am certainly not going to bring suit against my principal client because he has swiped one of my people," exclaims the owner of an SSCI. The match is rendered all the more unequal by businesses that, having acquired hardware they fear they will never master, are prepared to go to any financial lengths to attract the specialist savior. Money flows like water, and the service companies, compelled to recruit endlessly in order to keep up with their personnel losses--which, the cynics among them explain, "are almost part of the contract"--spend a goodly portion of their time organizing, within the natural hunting grounds that are the engineering schools and the IUT's, delicate seducement operations, euphemistically termed "Lecture-Room Solicitings."

While the service companies go after the starting analyst-programmer as their privileged target, the users, for their part--accounting for around 70 percent of all data processing jobs--are often desperately out in search of engineers

specialized in a very specific piece of equipment, namely, "systems engineers," that is, computer technicians who can be assigned responsibility for maintaining that equipment and operating it in the most cost-effective manner. "Six months after a builder has brought out a new piece of equipment," Agnes Chauvin estimates, "the specialized systems engineer for that equipment is nowhere to be found."

Grave as is the situation in data processing, it appears desperate in certain specific applicational sectors, like word processing. The specialized service companies lack consultants able to advise firms viably in the choice of equipment, and above all trainers--"driving instructors," to use one professional's term. A field in which an annual growth rate of 100 percent is not rare, word processing "does not require a high level of technical ability," affirms Louis Nauges, president and general manager of Bureautique, S.A., "but rather enthusiasm and a taste for communication. We can just as well use graduates of the big scientific universities as of the HEC's [schools for advanced business studies] as of the literary disciplines. But we desperately lack candidates."

The Missed Train

And the data processors are taking a rancor-laden view of the universities, accusing them of having missed the train and not having seen the explosion of demand in this field. For, explosion is the appropriate term: Who remembers the time when 80 percent of data processing expenditures in France were concentrated in 400 organizations? Yet, that was only as far back as 1975.² Then suddenly, with gigantic strides, the computer invaded the field of management of PME's [Small- and Medium-Size Businesses], installed itself in the secretarial office, provided you with cash withdrawals on Sunday, relieved workers from the production line, designed highway routings and the wings of the Airbus.

As to figures? There has been, since 1980, a slew of SICOB [Exposition of Office and Business Supply Industries and Office Organizations] conferences and of discussion formats regarding them, that has kept the data processing boat in a state of consternation. Prior to that, Raymond Barre had commissioned Jacques Tebeka, a graduate of the Ecole Polytechnique, a mining engineer and currently general manager of a service company, Dataid, to compile a report evaluating the disaster.² "A total of 145,000 data processing specialists will have to be trained over the next 5 years," the report found. It also pointed out that as of 1980 only 22 percent of these needs were being covered by the public education system (universities, engineering schools and on-the-job training taken all together), the balance being provided by private institutions, equipment makers and service companies.

In defense of the universities, many professionals acknowledge that the boom was difficult to foresee. Around 1975, the training apparatus had closed its initial lag.

However, the lag in the advent of "ready-made" programming and in the simplification of languages³--two factors that had been expected to moderate the situation--quickly reignited the demand for specialists, catching the schools and universities unprepared: In 1979, they "produced" only 2,770 data processing entrants into the job market.

To cite just one regional example, Nord-Pas-de-Calais, an important scientific and industrial pole, seeks today to double within the next 2 years its data processing training outlay, the emphasis being placed mainly on industrial data processing.

Technological vicissitudes are not alone responsible for the current situation. Still a minority on university faculties, the professors in the "professional" disciplines, like the MIAGE [Master of Data Processing as Applied to Business Management], which is highly regarded in data processing circles, find acceptance difficult among their "classical" colleagues: "When a professor of cant dies, all the professors of cant unite to ensure that the position will be given to a canter and not to a data processor," fulminates Bertrand Girod de l'Ain. The mathematicians, in particular, regard themselves as the most ferocious of the data processors' enemies...

A bevy of private institutes, marketers of initial and continuous training, has swarmed into these voids in public education. "Become an analyst-programmer in a few short months," is promised by enticing ads that hardly mention the prices of their training courses, which in this specific case and according to a survey by LE MONDE DE L'EDUCATION⁴, rarely come to less than 12,000 francs. Fair game for these institutes is the young bac without occupational training, turned down by the IUT's: The Paris one accepted only 110 students out of 4,200 candidates in 1981. "A private outfit came to ask that we refer rejected candidates to it," says Annette Dambrot, assistant head of that IUT. "Of course, we refused. But we were unable to prevent them from posting their ad in the hallways. The students who failed turned automatically to the ad. The outfit got many applicants."

The effectiveness of these private training programs varies widely. "Each ad for an analyst-programmer," says a recruiting consultant, produces around 350 responses. Twenty are graduates of an IUT or hold a BTS [higher technician's diploma]⁵. A few have completed an adult occupational training course, which is highly regarded but for which the waiting time is a minimum of 1 year in the Paris region. All the rest have a 3-month private training course. Obviously this latter category goes directly into the wastebasket, except where our client has made it clear his pay will be very low." Actually, it is possible to train programmers on a specific type of equipment and one language type in a period of several weeks. But if one or the other of these undergoes a change, the programmer trained in this manner is lost. "Unemployment among these programmers is a phenomenon that is here to stay," the Data Processing Agency points out.

So what! A mythical job-security--while many institutes continue training console operators, condemned today to unemployment--and the flamboyant lure of data processing pay scales keep the private establishments filled to capacity. A MIAGE graduate in 1981 could demand between 6,000 and 7,400 francs a month, far more than could a master of business administration, for example (5,400 to 7,000 francs) or a graduate of a provincial business school (5,400 to 7,500). "A 30-year-old starting to work 2 years after his or her bac [General Certificate of Education] earns 150,000 to 200,000 francs a year. In what other sector outside of data processing would he or she be paid that much?" asks Agnes Chauvin. During the first 10 years of his or her career, the data processing specialist will

change jobs at least three times, at a pay increase of at least 25 percent each time, a threshold below which it is useless to try to get a processing specialist to change jobs, according to the head hunters.

It appears nevertheless that ceilings have been reached. From 1974 to 1981, data processing specialist pay scales have increased at a slower rate than the average for other pay scales, according to statistics compiled by the Ondis firm⁶. However, they started at such a high level that the "damage" is limited.

A shortage, then? Of course, but it appears to be here to stay. Proof of this is to be found in the operation "1,000 Data Processors," launched by the Data Processing Agency (created in 1980 to promote, among other things, data processing training). This program set out to finance the reconversion of unemployed staff personnel to fill data processing jobs, in exchange for commitments from enterprises to provide permanent employment for these personnel after completion of their 11-month training period. One thousand applications were submitted to business firms, producing only 300 permanent jobs. Is this not an indication that that the service companies may not really be all that disappointed in their hunt for data processors?

FOOTNOTES

1. Estimate according to a study currently being drawn up by the Data Processing Agency.
2. Jacques Tebeka: "The Training of Data Processing Specialists," a report to the prime minister; DOCUMENTATION FRANCAISE, 1980.
3. Despite the advent of ultra-simple-to-handle software, such as Univac's "Mapper" (LE MONDE, 31 March 1982).
4. LE MONDE DE L'EDUCATION, No 76. On employment in scientific fields, and particularly employment of data processing specialists, see also LE MONDE DE L'EDUCATION, No 80, February 1982.
5. Higher technician's diploma.
6. Cited by TEMPS REEL, No. 23.

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FRANCE

PTT OFFICIAL DISCUSSES EXPORTS, COMPETITION, ORGANIZATION

Paris ELECTRONIQUE ACTUALITES in French 2 Apr 82 p 18

[Interview by D. Levy with M. Bustarret, director of Industrial and International Affairs: "'We Will Back the Industrialists' Efforts to Adapt to the Market'--An Interview with M. Bustarret (DAII [Department of Industrial and International Affairs])"]

[Text] After the nationalizations of the Thomson and CGE [General Electricity Co] groups and the taking of control of CGCT [General Telephone Construction Co] that is to come before the end of the year, more than 80 percent of the telecommunications sector will be under the control of the state. What will be the attitude of the PTT [Posts, Telegraph and Telephone] in the face of this new environment? M. Bustarret, director of Industrial and International Affairs, replied to us, in the course of the interview he granted us: "From our point of view, the situation is clear; it is the minister of industry who has oversight of the nationalized groups, with the PTT acting as customer. On this basis, the PTT is one of the parties jointly responsible for the French electronic system, together with Industry, Defense and Research, under the authority of the minister of Industry. Within this framework, and in order to help the industrialists to remain competitive on the international level, we will back their efforts to adapt to the market." In the area of switching, the DAII will continue ordering the two current systems, the E-10 and the MT; but "the problem will arise with the following generation, for which it will be necessary to take into account, on the one hand, increasingly high development costs, and on the other hand, the possibility of European cooperation." Finally, as regards telematics, M. Bustarret specified that the PTT's annual orders will rise from 300,000 to 500,000 electronic terminals this year, and to 1 million sets in 1984.

"Not everything was bad under the preceding administration--far from it," M. Bustarret acknowledges; "but things went too fast, and the means did not always keep up. We think that better effectiveness can be expected if we make better use of our Administration-CNET [National Center for Telecommunications Studies]-Industry potential. The nationalizations will facilitate this action."

"We carry weight, of course," M. Bustarret adds, "but we want to count for less than one-third or less than one-fourth in our suppliers' turnover, and we hope that we will no longer be the dominant factor in their decisions. We

must, however, take account also of the strategic and commercial aspects of telecommunications; thus our attitude vis-a-vis the industrialists is close to that of Defense and Research."

The Industrial Structures

As regards the industrial structures of telecommunications, M. Bustarret uses M. Mexandeau's formula applied to the broadened public electronics sector: in the areas in which we are weak (such as the general public or components), we have to concentrate our efforts; but in those in which the situation is relatively satisfactory, several poles can be maintained.

This is the case with telephone switching equipment; the PTT will continue to order the two temporal systems from CIT [Industrial Telephones Co]-Alcatel (the E-10) and Thomson-CSF [General Radio Co] (the MT). M. Bustarret considers, though, that "the problem will arise from a new angle with the following generation of central offices, for which it will be necessary to take into account the increasingly high costs of development, which would be an incentive to development of a single system, and on the other hand, the possibility of European cooperation, which would perhaps lead to development of two European systems."

Alongside the two big groups, the fate of the CGCT is beginning to be specified. After the public authorities have decided to take a majority holding in the company, M. Bustarret affirmed to us the desire of the PTT "to maintain a CGCT that is valid in its present structures. We are not in favor of a dismantling of the company. And we want the enterprise to be able, as much as possible, to get along making its own products."

Finally, M. Bustarret confirmed to us the choice of the SAT [Telecommunications Corporation] for the supplying of 100,000 to 200,000 electronic satellite automatic switches (derived from the satellite center project) [as published]. In addition, some sample orders will be made from Jeumont-Schneider. Furthermore, these transactions will constitute support for these firms' private switching-equipment activity, in France and for export.

In the area of electronic mail, the DAI's policy will remain both firm (the PTT will continue to supply the subscribers with their first set) and liberal as regards the marketing of personalized secondary sets by the manufacturers, on the sole condition that they be approved on the technical level. "The experience from marketing of teleprinters has yielded good results," M. Bustarret notes. Nevertheless, EGT [General Telecommunications Company] will retain its role as "point of reference," remaining present in this sector in order to prevent abuses. As regards the T-83, while an initial order was made last year for 1 million sets (divided between Telic and MATRA [Mechanics, Aviation and Traktion Co]), a second order planned for this year depends on the question of the PTT's level of credits.

European Cooperation

As regards exportation of telephone equipment, M. Bustarret refuses to make "a stupid bet" by arbitrarily setting a percentage of foreign-markets sales, not-

ing that for a given level of exports, this percentage improves as the domestic-market level drops. He stresses, nevertheless, the necessity of the industrialists' adapting to the conditions of the market and remaining competitive at the international level, because domestic orders are, effectively, going to continue to decrease.

In the face of the stiff international competition--especially from the Japanese competitors, who are becoming more and more dangerous--the new PTT administration is trying to revive European cooperation in telecommunications. Discussions have been started with Great Britain and with the FRG, but for the moment, the results are hardly encouraging. At a recent meeting of the Ten, only three countries declared in favor of the French proposal to reserve 10 percent of the telephone market to the EEC's manufacturers. The idea broached by the PTT consists in achieving "an industrial rapprochement based on a political will." Thus, Philips-CGE and Siemens-Thomson associations can be imagined, with access, by means of reciprocal agreements between administrations, to the markets of France, The Netherlands, the FRG, etc.

As regards telematics, the 1982 order of levels is linked to the budgetary extension expected for the PTT. A consultation involving 300,000 to 500,000 "Minitels" has just been started by the DAI, the objective being to order 1 million terminals in 1984, with an intermediate level in 1983. In view of the mass-production effect that is of primary importance for this kind of product, M. Bustarret considers that it would be "unreasonable to have more than two production lines," but "not at all impossible that there would be more than two sellers of 'Minitel'."

The DAI is also developing an active policy in the matter of server centers, with the objective of achieving in 1984, at any point of the territory, a data base for each point of videotex access. Industrial consultations have been initiated to this end. Abroad, the PTT will encourage the setting-up of groupings among service companies and manufacturers of equipment. The No 1 market aimed at is, of course, the United States. Thus the French action in promotion of telematics, being carried on by Intelmatique, should be followed, in 1983 at the latest, by commercial action conducted by these groups.

Finally, in the area of telecopiers, the DAI will encourage the development of a low-cost model (in relation to current prices) intended for businesses. An order for 10,000 sets will be given to a manufacturer, and sample orders will help other industrialists make a breakthrough into this market (it is estimated that competitive prices can be achieved on the basis of 20,000 telecopiers per year). These sets will be marketed both by EGT and by the manufacturers.

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END